

**Notice of Allowability**

Application No.

10/634,550

Examiner

Victor V Y vsikov

Applicant(s)

LEE ET AL.

Art Unit

2825

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application, filed 08/05/03.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 05 August 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT/COMMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

To the claims

At claim 1, line 15, delete the word "second";

At claim 1, line 21, delete the word "second";

At claim 10, line 7, delete the word "second".

Appropriate correction is required.

### ***Allowable Subject Matter***

Claims 1-20 are allowed.

The following is an examiner's statement of reasons for allowance:

Prior art does not teach a method of fabricating a capacitor comprising the steps:  
forming a second capacitor oxide film over the first capacitor oxide film, wherein the wet etch rate of the first capacitor oxide film is different from the etch rate of the second capacitor oxide film;

Art Unit: 2825

forming second contact hole for a storage node electrode, wherein the second contact hole etched until the first conductive plug of the first layer is exposed;

forming a cylindrical storage node electrode by etching a predetermined portion of the filler film and the silicon film until the surfaces of the first and second capacitor oxide films are exposed to form a cylindrical storage node electrode; and forming a Ta<sub>2</sub>O<sub>3</sub> dielectric film covering the storage node electrode and a TiN film for an upper electrode.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Yevsikov whose telephone number is (571) 272-1910. The examiner can normally be reached by telephone on Monday to Friday 7:15 AM to 4:45 PM (except second Mondays).

If attempts to reach the examiner by telephone are unsuccessful, examiner's supervisor, Matthew S. Smith, can be reached on (571) 272-1905. The fax phone numbers for the organization where this application or processing is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communication.

Art Unit: 2825

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 7033080596.

Victor Yevsikov

February 7, 2004

*V. Yevsikov*

*Matthew Smith*

MATTHEW SMITH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

*Please note: "Second" was removed  
as there was no "First".*